

IN THE CLAIMS

1-25 (canceled)

26. (currently amended) A self-crosslinking polyurethane dispersion based on oxidatively drying at least one of a diol or triol, wherein reaction components consist essentially of:

(A) from > 12 to 30% by weight of an unsaturated fatty acid component which is capable of oxidative drying and comprises at least one reaction product of unsaturated fatty acids and aliphatic epoxy resins, aromatic epoxy resins or polyepoxides having two or three epoxide groups reactive to a fatty acid or fatty acid epoxy ester having two or three reactive hydroxyl groups,

(B) from 2 to 11% by weight of a polyol component consisting essentially of

(i) from 0 to 1.5% by weight of at least one low molecular weight polyol having two or more reactive hydroxyl groups and a molecular mass of from 60 to 150 dalton,

(ii) from 0.8 to 6% by weight of at least one higher molecular weight polyol having two or more reactive hydroxyl groups and a molecular mass of from 500 to 4000 dalton,

(iii) from 1.2 to 3.5% by weight of at least one anionically modified polyol having two or more reactive hydroxyl groups and one or more carboxyl groups which are inert toward polyisocyanates;

(C) from 8 to 25% by weight of a polyisocyanate component consisting essentially of at least one polyisocyanate or a derivative of a polyisocyanate based on

bis(4-isocyanato-cyclohexyl)methane (H_{12} MDI), 1,6-diisocyanatohexane (HDI) or 1-isocyanato-5-isocyanatomethyl-3,3,5-trimethylcyclohexane (IPDI) which contain an allophanate, a biuret, a carbodiimide, an isocyanurate, an uretdione or an urethane group, a polyisocyanate derivative based on 1,6-diisocyanatohexane (HDI) which has been hydrophilically modified or a higher homolog of aromatic polyisocyanate 2,4-diisocyanatotoluene, toluene diisocyanate (TDI) or bis(4-isocyanatophenyl)methane (MDI) having two or more aliphatic or aromatic isocyanate groups,

(D) from 0 to 10% by weight of a solvent component consisting ~~essentially~~ of at least one solvent which is inert toward polyisocyanates and is completely or partially miscible with water;

(E) from 0.5 to 3% by weight of a neutralization component consisting ~~essentially~~ of at least one base based on an amine or hydroxide;

(F) from 0 to 0.5% by weight of a siccative component consisting ~~essentially~~ of at least one water-emulsifiable active or auxiliary dryer;

(G) from 0.5 to 3% by weight of a chain extension component consisting ~~essentially~~ of at least one polyamine having two or more reactive amino groups; and water as the balance.

27. (previously presented)The polyurethane dispersion as claimed in claim 26, wherein said component (A) has an iodine number in the range from 100 to 150 $\text{g I}_2/(\text{100g})^{-1}$, a hydroxyl number of from 120 to 150 $\text{mg KOH}\cdot\text{g}^{-1}$ and an acid number of from 1 to 5 $\text{mg KOH}\cdot\text{g}^{-1}$.

28. (previously presented)The polyurethane dispersion as claimed in claim 26, wherein said component (A) has a viscosity of from 2500 to 25,000 $\text{mPa}\cdot\text{s}$ (20°C).

29. (currently amended) The polyurethane dispersion as claimed in claim 26, wherein said component (A) consists ~~essentially~~ of a reaction product of an unsaturated fatty acid and aliphatic or aromatic epoxy resin or polyepoxide having two or three epoxide groups which are reactive toward fatty acid.

30. (previously presented)The polyurethane dispersion as claimed in claim 26, wherein said component (A) consists ~~essentially~~ of a reaction product of at most a triple unsaturated fatty acid having an iodine number of from 170 to 190 g I₂·(100g)⁻¹ and an aliphatic or aromatic epoxy resin or polyepoxide having an epoxide number of >0.5 eq·(100g)⁻¹.

31. (currently amended) The polyurethane dispersion as claimed in claim 26, wherein said component (B) (i) consists ~~essentially~~ of at least one low molecular weight polyol having a molecular mass of from 90 to 140 dalton.

32. (currently amended) The polyurethane dispersion as claimed in claim 26, wherein said component (B) (ii) consists ~~essentially~~ of a polymeric polyol selected from the group consisting of a polyalkylene glycol, an aliphatic polyol, an aromatic polyester polyol, a polycaprolactone polyol a polycarbonate polyol and a combination thereof.

33. (currently amended) The polyurethane dispersion as claimed in claim 32, wherein said component (B) (ii) consists ~~essentially~~ of a linear polypropylene glycol or a bifunctional polypropylene glycol.

34. (currently amended) The polyurethane dispersion as claimed in claim 26 wherein said component (B) (ii) consists ~~essentially~~ of at least one higher molecular weight polyol having a molecular mass of from 1,000 to 2,000 daltons.

35. (currently amended) The polyurethane dispersion as claimed in claim 26, wherein said component (B) (iii) consists ~~essentially~~ of at least one bishydroxyalkanecarboxylic acid.

36. (previously presented) The polyurethane dispersion as claimed in claim 35, wherein said bishydroxyalkanecarboxylic acid is dimethylolpropionic acid.

37. (canceled)

38. (previously presented) The polyurethane dispersion as claimed in claim 26, wherein said neutralization component (E) comprises at least one of ammonia or a tertiary amines.

39. (currently amended) The polyurethane dispersion as claimed in claim 26, wherein said neutralization component (E) consists ~~essentially~~ of an alkali metal hydroxide.

40. (previously presented) The polyurethane dispersion as claimed in claim 26, wherein said neutralization component (E) is present in such an amount that the degree of neutralization based on the free carboxyl groups is from 80 to 100 equivalent-%.

41. (currently amended) The polyurethane dispersion as claimed in claim 26, wherein said siccative component (E) consists ~~essentially~~ of at least one of a metal soap or a metal salt.

42. (previously presented) The polyurethane dispersion as claimed in claim 26, wherein said chain extension component (G) is present in such an amount that the degree of chain extension is from 50 to 100 equivalent-%, based on the free isocyanate groups of the prepolymer.

43. (previously presented) The polyurethane dispersion as claimed in claim 26, wherein said component (A) is present in an amount of from ≥ 13 to 30% by weight; said

component (B) (i) is present in an amount of from 0.4 to 1% by weight, said component (B) (ii) is present in an amount of from 1.6 to 5% by weight; said component (B) (iii) is present in an amount of from 1.6 to 3% by weight; said component (C) is present in an amount of from 12 to 20% by weight; said component (D) is present in an amount of from 7 to 9% by weight; said component (E) is present in an amount of from 1 to 2% by weight; said component (F) is present in an amount of from 0.1 to 0.5% by weight; said component (G) is present in an amount of from 1 to 2% by weight; and the balance is water.

44. (previously presented)The polyurethane dispersion as claimed in claim 26, wherein a NCO/OH equivalent ratio of the components (A), (B) and (C) is in the range from 1.2 to 2.0.

45. (previously presented)The polyurethane dispersion as claimed in claim 26, wherein a solids content is from 30 to 60% by weight.

46. (canceled)

47. (previously presented)A process for preparing the polyurethane dispersion as claimed in claim 26 comprising

- a) reacting said components (A) to (C), optionally in said solvent component (D), and optionally in the presence of a catalyst, to form a polyurethane prepolymer;
- b) subsequently reacting the prepolymer from stage a) with said neutralization component (E) and, optionally, with the siccative component (F); and
- c) subsequently dispersing the prepolymer from stage b) in water reacting it with the chain extension component (G) to form the polyurethane dispersion.

48. (previously presented)The process as claimed in claim 47, wherein reaction stage a) is carried out at from 60°C to 120°C.

49. (previously presented) The process as claimed in claim 47, wherein reaction stage (a) is carried out in the presence of from 0.01 to 1% by weight, based on the components (A) to (D), of a catalyst suitable for polyaddition reactions on a polyisocyanate.

50. (previously presented) A one-component paint, varnish, coating for the surfaces of a mineral building material selected from the group consisting of concrete, wood, a wood material, a paper, metal a plastic a one-component adhesive or a sealant in the building sector comprising a binder comprising the polyurethane dispersion of claim 26.

51. (currently amended) The polyurethane dispersion as claimed in claim 26, wherein said component (B)(iii) consists ~~essentially~~ of at least one anionically modified polyol having a molecular mass of from 100 to 200 daltons.

52. (currently amended) A self-crosslinking polyurethane dispersion based on oxidatively drying at least one of a diol or triol, wherein reaction components consist ~~essentially~~ of

(A) from $\geq 14\%$ by weight of an unsaturated fatty acid component which is capable of oxidative drying and consists ~~essentially~~ of at least one reaction product of unsaturated fatty acids and aliphatic epoxy resins, aromatic epoxy resins or polyepoxides having two or three epoxide groups reactive to a fatty acid or fatty acid epoxy ester having two or three reactive hydroxyl groups,

(B) from 2 to 11% by weight of a polyol component consists ~~essentially~~ of

(i) from 0 to 1.5% by weight of at least one low molecular weight polyol having two or more reactive hydroxyl groups and a molecular mass of from 60 to 150 dalton,

(ii) from 0.8 to 6% by weight of at least one higher molecular weight polyol having two or more reactive hydroxyl groups and a molecular mass of from 500 to 4000 dalton,

(iii) from 1.2 to 3.5% by weight of at least one anionically modified polyol having two or more reactive hydroxyl groups and one or more carboxyl groups which are inert toward polyisocyanates;

(C) from 8 to 25% by weight of a polyisocyanate component consisting ~~essentially~~ of at least one polyisocyanate or a derivative of a polyisocyanate based on bis(4-isocyanato-cyclohexyl)methane (H_{12} MDI), 1,6-diisocyanatohexane (HDI) or 1-isocyanato-5-isocyanatomethyl-3,3,5-trimethylcyclohexane (IPDI) which contain an allophanate, a biuret, a carbodiimide, an isocyanurate, an uretdione or an urethane group, a polyisocyanate derivative based on 1,6-diisocyanatohexane (HDI) which has been hydrophilically modified or a higher homolog of aromatic polyisocyanate 2,4-diisocyanatotoluene, toluene diisocyanate (TDI) or bis(4-isocyanatophenyl)methane (MDI) having two or more aliphatic or aromatic isocyanate groups,

(D) from 0 to 10% by weight of a solvent component consisting ~~essentially~~ of at least one solvent which is inert toward polyisocyanates and is completely or partially miscible with water;

(E) from 0.5 to 3% by weight of a neutralization component consisting ~~essentially~~ of at least one base based on an amine or hydroxide;

(F) from 0 to 0.5% by weight of a siccative component consisting ~~essentially~~ of at least one water-emulsifiable active or auxiliary dryer;

(G) from 0.5 to 3% by weight of a chain extension component consisting essentially of at least one polyamine having two or more reactive amino groups; and water as the balance.

53. (previously presented) The polyurethane dispersion as claimed in claim 26, wherein the component A is present in an amount of $\geq 14\%$ by weight.